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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* AUSTIN W. MUTCHLER

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Appeal 2009-005348  
Application 10/761,185  
Technology Center 3700

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Decided: May 28, 2010

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Before JENNIFER D. BAHR, STEVEN D.A. McCARTHY  
and MICHAEL W. O'NEILL, *Administrative Patent Judges*.

McCARTHY, *Administrative Patent Judge*.

DECISION ON APPEAL

1           The Appellant appeals under 35 U.S.C. § 134 from the Examiner's  
2   decision finally rejecting claims 1-5 and 7-32. We have jurisdiction under  
3   35 U.S.C. § 6(b).

4           The Examiner entered a new ground of rejection in the Answer,  
5   rejecting claims 1-5, 10 and 21 under § 102(b) as being anticipated by

1 Ackeret (US 6,319,253 B1, issued Nov. 20, 2001). (Ans. 2). The Examiner  
2 properly gave notice of the new ground of rejection. (*Id.*; Ans. 11). A  
3 Technology Center Director approved the new ground of rejection. (Ans.  
4 13). As the Answer indicated (Ans. 11-12), the Appellant was required to  
5 respond to the new ground within two months in either of two ways: 1)  
6 reopen prosecution (*see* 37 CFR § 41.39(a)(2)(b)(1)); or 2) maintain the  
7 appeal by filing a reply brief as set forth in 37 CFR 41.41 (*see* 37 CFR  
8 § 41.39(a)(2)(b)(2)), “to avoid *sua sponte* dismissal of the appeal as to the  
9 claims subject to the new ground of rejection.” (Ans. 12). According to the  
10 record before us, the Appellant does not appear to have exercised either  
11 option.

12 Accordingly, we DISMISS the appeal as to the claims subject to the  
13 new ground of rejection, namely, claims 1-5, 10 and 21.

14 Although the appeal is dismissed as to claim 1, the claim is illustrative  
15 of the subject matter of the remaining claims on appeal:

16 1. An intermedullary nail for use with a  
17 first fastener and a second fastener for use in  
18 orthopaedic surgery, said nail comprising a body  
19 defining a longitudinal axis thereof, the body  
20 having a continuous edge defining an aperture  
21 therethrough, the continuous edge having opposed  
22 straight parts and curved parts, the aperture having  
23 a first portion defined by the opposed straight parts  
24 of the continuous edge for cooperation with the  
25 first fastener to provide dynamic fixation and  
26 having two spaced cylindrical end portions defined  
27 by the curved parts of the continuous edge for  
28 cooperation with the second fastener to provide  
29 static fixation, the first portion of the aperture  
30 lying between the cylindrical portions of the  
31 aperture, the cylindrical portions of the aperture

1           having widths greater than the distance between  
2           the opposed straight parts of the continuous edge  
3           defining the first portion of the aperture, the  
4           aperture being symmetrical about a longitudinal  
5           axis extending between the cylindrical portions  
6           and between the straight parts of the edge.

7           We sustain the rejection of claim 8 under 35 U.S.C. § 103(a) as being  
8           unpatentable over Ackeret and Sohngen (US 2003/0195515, publ. Oct. 16,  
9           2003). We do not sustain the rejections of claims 11-16, 18, 20, 22-27, 29,  
10          31 and 32 under 35 U.S.C. § 103(a) as being unpatentable over Ackeret and  
11          Sohngen.

12          We also sustain the rejection of claim 7 under § 103(a) as being  
13          unpatentable over Ackeret and Emilio (US 5,814,047, issued Sep. 29, 1998)  
14          and the rejection of claim 9 under § 103(a) as being unpatentable over  
15          Ackeret, Sohngen and Emilio. We do not sustain the rejections of claims 17,  
16          19, 28 and 30 under § 103(a) as being unpatentable over Ackeret, Sohngen  
17          and Emilio.

18  
19          *The Rejection of Claim 8 Under § 103(a) as Being Unpatentable Over*  
20          *Ackeret and Sohngen; the Rejection of Claim 7 Under § 103(a) as Being*  
21          *Unpatentable Over Ackeret and Emilio; and the Rejection of Claim 9 Under*  
22          *§ 103(a) as Being Unpatentable Over Ackeret, Sohngen and Emilio*

23          Claims 7 and 8 each depend from claim 1 while claim 9 depends from  
24          claim 8. Parent claim 1 recites “the aperture being symmetrical about a  
25          longitudinal axis extending between the cylindrical portions and between the  
26          straight parts of the edge.” When entering the new ground of rejection in the  
27          Answer, the Examiner made a finding that Ackeret’s aperture or locking  
28          hole 1 is symmetrical about a longitudinal axis extending between the  
29          cylindrical portions and between the straight parts of the edge.

Regarding the symmetry of the aperture, if one considers the axis of ref. 3 in Fig. 1a as the ‘longitudinal axis’ of the claims and one rotates the nail as shown by ninety degrees, then the longitudinal axis will split the entire slot in two symmetrical portions, one on the left and one on the right. By rotating the entire nail shown in Fig. 1a by ninety degrees, the slot is bilaterally symmetrical about the longitudinal axis of ref. 3.

(Ans. 3). The Appellant elected not to file a Reply Brief challenging this finding. Since the finding is unchallenged, we adopt the finding as our own.<sup>1</sup>

The Appellant contends that any proposed modification of the aperture or locking hole 1 disclosed in Ackeret would have rendered the locking hole 1 unsatisfactory for the intended purpose of receiving spiral blades. (Br. 7-8; *see also* Br. 10 and 11). The argument is moot: Since

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<sup>1</sup> Alternatively, we observe that claim 1 recites that the aperture is symmetrical *about the longitudinal axis*. The term “symmetrical about the longitudinal axis” is sufficiently broad to encompass an aperture having a shape which does not change if rotated 180° around the longitudinal axis. This interpretation of the term “symmetrical about the longitudinal axis” is consistent with the Specification since the apertures shown, for example, in Figures 1 and 7 of the Appellant’s drawing figures appear to be rotationally symmetric about the longitudinal axes 116 and 416.

Ackeret describes the elongated passage 4 of the locking hole 1 as running diametrically transversely to the longitudinal axis 3. Ackeret also describes the passage 6 as diametrically crossing the nail 2. (Ackeret, col. 2, ll. 51-67). Figure 1a of Ackeret depicts the borehole 5 as running parallel to the elongated passage 4. These observations imply that the shape of any cross-section of the locking hole 1 in any plane perpendicular to the longitudinal axis would remain unchanged were the nail 2 rotated 180° around the longitudinal axis. In other words, Ackeret’s aperture or locking hole 1 is symmetrical about the longitudinal axis 3.

1 Ackeret discloses an intermedullary nail including an aperture which is  
2 “symmetrical about a longitudinal axis extending between the cylindrical  
3 portions and between the straight parts of the edge,” the Examiner need  
4 propose no modification of Ackeret’s nail to meet this limitation. We  
5 sustain the rejections under § 103(a) of claim 7 as being unpatentable over  
6 Ackeret and Emilio; of claim 8 as being unpatentable over Ackeret and  
7 Sohngen; and of claim 9 as being unpatentable over Ackeret, Sohngen and  
8 Emilio.

9  
10 *The Rejections of Claims 11-16, 18, 20, 22-27, 29, 31 and 32 Under*  
11 *§ 103(a) as Being Unpatentable Over Ackeret and Sohngen and the*  
12 *Rejections of Claims 17, 19, 28 and 30 Under § 103(a) as Being*  
13 *Unpatentable Over Ackeret, Sohngen and Emilio*

14 Claim 11 recites a kit for use in orthopaedic surgery. The kit includes  
15 a first fastener, a second fastener and an intermedullary nail. The  
16 intermedullary nail includes a body having an edge defining an aperture  
17 therethrough. The edge includes first substantially parallel parts defining a  
18 first portion of the aperture sized and shaped to cooperate with the first  
19 fastener to provide dynamic fixation. A maximum outer diameter of the  
20 shank of the first fastener is less than the distance between the first  
21 substantially parallel parts of the edge defining the first portion of the  
22 aperture. A maximum outer diameter of the shank of the second fastener is  
23 greater than the distance between the first substantially parallel parts of the  
24 edge defining the first portion of the aperture.

25 Claim 22 recites a kit for use in orthopaedic surgery. The kit includes  
26 a first fastener, a second fastener and an intermedullary nail. The  
27 intermedullary nail includes a body having an edge defining an aperture

1 therethrough. The edge has a curved part and opposed straight parts. The  
2 aperture defines an enlarged portion thereof along the curved edge. The  
3 aperture has a constricted portion defined by the two opposing straight parts  
4 of the edge. A maximum outer diameter of the shank of the first fastener is  
5 less than a distance between the two opposing parts of the edge defining the  
6 constricted portion of the aperture to allow for dynamic fixation when the  
7 first fastener is used with the intermedullary nail. A maximum outer  
8 diameter of the shank of the second fastener is great enough to allow for  
9 static fixation when the second fastener is placed in the enlarged portion of  
10 the aperture.

11 With respect to claim 11, the Examiner finds that Figure 2a of Ackeret  
12 discloses a kit including a first fastener *11* and a second fastener *10*. (Ans.  
13 5). The Examiner does not explain how a maximum outer diameter of the  
14 shank of the first fastener *11* is less than the distance between first  
15 substantially parallel parts or opposed straight parts of an edge defining the  
16 aperture or locking hole *1*. That is, the Examiner does not explain how a  
17 maximum outer diameter of the shank of the locking screw *11* is less than a  
18 width of the slot *6*. Instead, the relative dimensions of the parts shown in  
19 Figure 2b of Ackeret indicate that the maximum outer diameter of the shank  
20 of the locking screw *11* is not necessarily less than the width of the slot *6*.  
21 The Examiner's finding that Figure 2a of Ackeret discloses a kit including a  
22 first fastener *11* and a second fastener *10* does not provide a rational  
23 underpinning for the conclusion that the subject matter of claim 11 (or of  
24 claim 22) would have been obvious.

25 With respect to claim 22, the Examiner finds that Sohngen discloses  
26 an intermedullary nail and a first fastener *32*. The Examiner further finds

1 that the maximum outer diameter of the shank of the first fastener 32 is less  
2 than the distance between first substantially parallel parts of an edge  
3 defining a first portion, namely, the parallel sides of the longitudinal slot 56  
4 shown in Figure 8 of Sohngen. The Examiner reasons that it would have  
5 been obvious to have utilized the “relative dimensions of the slot and  
6 fastener as taught by Sohngen with the intramedullary nail of Ackeret et al.,  
7 in order to make the implant dynamic, which will work to decrease the load  
8 carried by the fasteners and nail member and transfer the load to the fracture  
9 as the fracture heals.” (Ans. 7). The Examiner further reasons that, “if one  
10 did not modify the fastener in this manner as taught by Sohngen, then the  
11 fastener could not slide the entire length of the slot and dynamization would  
12 be hindered and healing at the fracture site would also be hindered.” (Ans.  
13 11).

14 The Examiner provides insufficient evidence and technical reasoning  
15 to show that providing a kit combining an intermedullary nail; a first  
16 fastener with a shank having a maximum outer diameter less than a distance  
17 between first substantially parallel parts of an edge defining a first portion of  
18 an aperture or a distance between two opposing parts of an edge defining a  
19 constricted portion of the aperture; a second fastener including a shank  
20 having a maximum outer diameter greater than the distance between the first  
21 substantially parallel parts of the edge defining the first portion of the  
22 aperture or great enough to allow for static fixation when the second fastener  
23 is placed in the enlarged portion of the aperture, was a known solution to any  
24 technical problem at the time the subject matter of claim 11 or of claim 22  
25 was made.



1       The screws 32 shown in Figures 9 and 14 of Sohngen do not appear to  
2 slide between the parallel sides of the longitudinal slots 56 in a manner  
3 which might have suggested the Examiner's proposed modification of  
4 Ackeret's nail to facilitate dynamic fixation. Instead, the screws 32 shown  
5 in Figures 9 and 11-13 appear to be held within circular openings 54 through  
6 an insert 50 secured within a chamber 34 in a proximal end 24 of the nail 18.  
7 (*See* Sohngen 2, paras. 0039-42; *id.* 3, para. 0048). Sohngen teaches  
8 providing dynamic fixation by forming the insert 50 from resorbable  
9 material (*see* Sohngen 3, para. 0045), not by providing a screw with a  
10 relatively small maximum diameter so as to fit into a constricted portion of  
11 an aperture.

12       As the Appellant points out (*see, e.g.,* Br. 9), both Ackeret and  
13 Sohngen disclose elongated slots (*e.g.,* elongated passage 4 in Figure 1 of  
14 Ackeret and the upper opening 102 in Figure 15 of Sohngen) which one of  
15 ordinary skill in the art might have used for dynamic fixation. The  
16 Examiner has not provided any reasoning sufficient to show that one of  
17 ordinary skill in the art familiar with the combined teachings of Ackeret and  
18 Sohngen would have had reason to use a fastener sized to fit within a  
19 constricted passage (such as the slot 6 in Figure 1 of Ackeret) to dynamically  
20 affix an intermedullary nail.

21       We do not sustain the rejection of claim 11, the rejections of its  
22 dependent claims 12-16, 18, 20, and 32, under § 103(a) as being  
23 unpatentable over Ackeret and Sohngen. Neither do we sustain the rejection  
24 of claim 22, or the rejections of its dependent claims 23-27, 29 and 31, under  
25 § 103(a) as being unpatentable over Ackeret and Sohngen. Furthermore, the  
26 Examiner cites Emilio only for its disclosure of a body defining threads

1 therein adjacent to first and second cylindrical ends for engagement and  
2 guidance of screws. (Ans. 9, citing Emilio, col. 5, ll. 19-24 and fig. 12).  
3 The Examiner does not cite Emilio for any teaching which might make up  
4 for the deficiencies of the teachings of Ackeret and Sohngen for purposes of  
5 the rejections of claims 17, 19, 28 and 30 under § 103(a). We do not sustain  
6 the rejections of claims 17, 19, 28 and 30 under § 103(a) as being  
7 unpatentable over Ackeret, Sohngen and Emilio.

8  
9 **DECISION**

10 We DISMISS the appeal as to claims 1-5, 10 and 21.

11 We AFFIRM the Examiner's decision rejecting claims 7-9.

12 We REVERSE the Examiner's decision rejecting claims 11-20 and

13 22-32

14 No time period for taking any subsequent action in connection with  
15 this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R.  
16 § 1.136(a)(1)(iv) (2007).

17  
18 **AFFIRMED-IN-PART**

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